

Gloucestershire County Council.

20TH OCTOBER, 1924.

ANNUAL REPORT

OF

The Medical Officer of Health

FOR THE

ADMINISTRATIVE COUNTY OF GLOUCESTER

FOR 1923.

SHIRE HALL, GLOUCESTER,

1ST SEPTEMBER, 1924.

INDEX.

	<i>Page.</i>
ANNUAL REPORTS	7
BACTERIOLOGICAL AND PATHOLOGICAL WORK	28
FOODS AND DRUGS	34
HOUSING ACCOMMODATION	29
INFANTILE MORTALITY	10
INFECTIOUS DISEASES	19
ISOLATION HOSPITALS	29
MATERNITY AND CHILD WELFARE	11
PUBLIC HEALTH PROPAGANDA	34
RIVERS POLLUTION	31
SCHEME FOR THE EXTENSION OF MEDICAL SERVICES	37
SEWERAGE AND SEWAGE DISPOSAL	32
TABLES OF STATISTICS	End of Report
VENEREAL DISEASES	27
VITAL STATISTICS, 1923, PRELIMINARY NOTE	7
WATER SUPPLY	33
WELFARE OF THE BLIND	17



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Gloucestershire County Council.

ANNUAL REPORT, 1923.

HEALTH DEPARTMENT,
SHIRE HALL,
GLOUCESTER,

*To the Chairman and Members of the
Public Health and Housing Committee.*

GENTLEMEN,

This is the 22nd Annual Report which it has been my duty to prepare. The general statistics for 1923 are satisfactory. There was a slight fall in the birth-rate, but, on the other hand, the general death rate was the lowest on record (below 12.0 per 1,000 for the first time), and the infantile mortality figure reached the remarkably low number of 48 deaths of infants under one year per 1,000 births—the first time it has been below 50. The significance of these figures finds fuller mention on pages 8 to 11 of the report.

The outbreak of smallpox which commenced probably at the end of 1922 persisted in one part of the County until May 1924 : it remained of a mild type throughout, and, though cases occurred in 13 districts, it obtained a hold only in the East Dean Rural District, where 306 of the total 419 cases were reported (page 19). The cost to the County has been heavy, but if the opportunities offered by modern knowledge for the prevention of disease have been brought home to the community to such an extent that advantage will be taken of them, the lesson has been learnt far more cheaply than might have been the case.

Scarlet fever was somewhat more prevalent, but the number of cases of diphtheria was the lowest on record ; that form of enteric fever known as paratyphoid fever was unusually prevalent, especially in the Autumn, not only in this County but also in many other parts of England and Wales (page 22).

One of the most valuable branches of public health work undertaken by the County Council has been the Milk Campaign, of which a full note is given on page 34. It has been carried out through, and largely at the expense of the National Milk Publicity Council. That the Campaign has been successful in its immediate objects is demonstrated by the requests which have been received from all directions for further addresses. No more important subject could have been selected for public health propaganda, and it is to be desired that some way may be found to carry it on as a permanent matter, and that in time there may be greatly increased consumption of milk of a better character than is at present available in the County generally.

Work under the Scheme for the Extension of Medical Services has steadily developed and the scheme is now fairly established. The progress reported on page 38 has continued into 1924, and that the work proceeds as smoothly as it does shows that the considerable numbers of persons engaged in it have grasped their respective shares in the scheme and appreciate the advantages of the co-operation which it necessitates.

I have the honour to remain,

Your obedient servant,

J. MIDDLETON MARTIN,
County Medical Officer of Health.

VITAL STATISTICS, 1923.

POPULATION.

The estimates of population at the middle of 1923 as given by the Registrar-General are :—

Urban Districts	99,826
Rural Districts	231,984
Administrative County	331,810

The figure for the whole County is 1,863 above that for 1922. The natural increase (excess of births over deaths) in 1922 was 1,687, and in 1923 2,074; from this it would follow that it was not considered that there had been much emigration from the County in 1923. The estimate for the previous year (1922) would have allowed for an excess of emigration over immigration of nearly 1,000 persons.

BIRTHS.

The number of births registered was 5,953. This is smaller than the number in 1922, but the fall is less than in the previous years. The variation since 1914 is shown in the following table :—

Births Registered.

1914 ...	6,216	1919 ...	5,275
1915 ...	5,978	1920 ...	7,658
1916 ...	5,852	1921 ...	6,528
1917 ...	4,786	1922 ...	6,098
1918 ...	5,001	1923 ...	5,953

The birth rates per 1,000 of the population are compared for urban and rural districts and with that for England and Wales in the next table :—

	1923	1922	1921	1916- 1920	1911- 1915	1906- 1910	1901- 1905
Urban	17.0	17.1	18.8	16.7	18.1	20.8	22.3
Rural	18.4	19.1	20.3	17.9	19.8	22.4	24.6
Administrative County ...	18.0	18.5	19.9	17.6	19.3	21.8	23.8
England and Wales ...	19.7	20.6	22.4	20.1	23.6	26.3	28.2

From this the fall in the County Rate since 1920 has been slightly greater in the County than in the country as a whole, and also in the Rural Districts than in Urban Districts. As usual the areas of highest birth rate are the districts on the West of the Severn.

DEATHS.

There was a remarkable fall in the death rate both in the country as a whole and in Gloucestershire, as will be seen from the following statement :—

	1923	1922	1921	1916-1920	1911-1915	1906-1910	1901-1905
Urban	12.5	14.7	13.0	15.1	14.2	14.1	14.6
Rural	11.3	12.8	11.6	14.1	13.0	12.9	13.8
Administrative County ...	11.7	13.4	12.0	14.4	13.4	13.3	14.1
England and Wales ...	11.6	12.9	12.1	13.7	13.8	14.4	16.0

The actual number of deaths was a record minimum of 3,879, the next lowest being in 1920 with 3,920. The changes in the proportions of deaths occurring at different ages is shown in the following table :—

Percentage of total deaths occurring in age groups.							
	under one year	1-5	5-15	15-25	25-65	over 65 years	
1901-10 ...	15.0	6.0	3.1	4.0	29.2	42.8	
1911-20 ...	10.2	4.4	3.5	4.4	31.8	45.7	
1921	9.9	2.5	2.5	4.3	31.3	49.5	
1922	7.7	2.9	2.3	3.9	30.6	52.7	
1923	7.3	3.1	2.4	4.0	31.0	52.1	

The fall in the death-rate from 13.5 per 1,000 of the population in 1901-10 to 11.7 per 1,000 in 1923 means that about 600 persons who would have died in 1923 at the 1901-10 rate have been given a longer lease of life, and the above table shows that this prolongation of life has occurred particularly at ages below 15 years. The statement in this form shows the transference of the age of death to the older groups but does not bring out fully the extent of the saving, especially at ages above 5 years. Calculated in another way, for every 100 deaths at each group in 1901-10 the numbers in 1924 were :—

<i>Age group.</i>	<i>Deaths compared with 1901 taken as 100.</i>	<i>Lives prolonged 1924 per 100 in 1901-10.</i>
0-1	43	57
1-5	45	55
5-15	69	31
15-25	90	10
25-65	93	7
65 and over	109	

In the reports on individual districts special reference is not infrequently made to this prolongation of life which is now a recognised fact: in Pebworth Rural District, for example, Dr. Evans notes that half of the total deaths (42) occurred at ages over 70 years.

This reduction in mortality is due to decreased numbers of deaths caused by certain conditions, particularly tuberculosis and respiratory affections, while those due to cancer have increased. The very low rate in 1923 was mainly occasioned by the record small numbers of deaths for pulmonary tuberculosis (209), bronchitis (209), congenital debility (129), and diarrhoea under 2 years (18), and the relatively low figures for influenza (96), and heart diseases (639). On the other hand the numbers attributed to some other conditions—for example, nephritis and cancer—were higher than usual. These increases cannot be regarded as altogether unsatisfactory, for if people live longer and die later in life it necessarily follows that the numbers of deaths from causes associated with age will increase: thus 108 of the total 131 deaths from nephritis and 399 of the total 435 deaths from cancer occurred at ages over 45 years. It must not, however, be assumed from this brief statement that the limit of prevention is anything like reached. Thus it cannot be regarded as satisfactory that, apart from the mortality due to tuberculosis among young adults, 396 persons should, for example, have died from nephritis (52), heart diseases (160), and cancer (184) between the ages of 45 and 65 years—a period of life when the services of the individuals would still be valuable; the total number dying even under the age of 45 was 1,039, or nearly 27 per cent. of all deaths in 1923. While efforts will continue to be necessary to maintain the reductions already recorded, the postponement of deaths due to such causes as cancer calls for a somewhat different line of action: early diagnosis with subsequent early treatment is of very great importance, and probably the chief measure likely to be effective is increased opportunity for medical practitioners to obtain consultations with physicians

and surgeons. As mentioned in my last report (p. 10), the Ministry of Health have issued a special circular on the matter, and in this County there exist special facilities for consultation in connection with the scheme for the extension of medical services of which advantage should be taken.

INFANTILE MORTALITY.

An even more remarkable feature of the statistics for 1923 is that the number of deaths of infants under the age of one year reached the record low figure of 284 (under 300 for the first time) and the rate per 1000 births the record minimum of 48. The following table shows the steady reduction in the infantile mortality rate from 1896–1900 to the present time :—

	1923	1922	1921	1916-1920	1911-1915	1906-1910	1901-1905	1896-1900
Urban	51	66	63	69	87	95.5	111	—
Rural	46	51	59	66	77	75	92.5	—
Administrative County	48	55	60	67	80	81	98	113
England and Wales	69	77	83	90	110	117	138	156

A matter of importance is to discover, if possible, to what conditions and agencies this satisfactory reduction in infantile mortality—and the accompanying very great decrease in non-fatal infantile illness—is due. The number of contributing factors is so large that the share of each cannot be readily determined, and there is considerable diversity of opinions as to which should be attached the greatest importance. In July 1923, Dr. Wheatley, the Medical Officer of Health for Shropshire, summarised the views of 86 medical officers of health: from these it would appear that the different factors have varying weight in the areas under consideration. The following statement shows the condition which the numbers of medical officers, attached to each, regarded as the chief factor :—

<i>Factor regarded as most important</i>					<i>by Medical Officers.</i>
Child Welfare Work	...	...	...	...	49
Improved Conditions of Living	...	...	...	...	10
Better Education	...	...	...	...	7
Improved Milk	...	...	...	...	5
Reduced Birth Rate	...	...	...	...	4
Decreased Horse Traffic	...	...	...	...	3
Equable Climate of recent years	...	...	...	...	1
					—
					79
					—

Dr. Wheatley's conclusion is that "the fall of the infant mortality rate has been due chiefly to education," the earlier part principally to general raising of intelligence by the operation of the Education Act 1870, and the latter part to general education and the special educational influence of child welfare schemes, including the work of district nurses. He adds that there are contributing factors, some mentioned above and improved sanitation generally. There will be general agreement that probably all the conditions named have contributed in greater or less degree to the prevention of infantile illness and death, but in my view the improvement coincides with the development of district nursing and is most largely due to the influence of the nurses in the homes of the people. In this County, District Nurses have the advantage of close association with the whole-time County Health Superintendents, appointed under the Maternity and Child Welfare Scheme, to whom they can refer for advice and assistance at all times.

MATERNITY AND CHILD WELFARE.

The progress of the scheme of the County Council during 1923 is given briefly in the following paragraphs :—

1. NOTIFICATION OF BIRTHS.

The numbers of births registered and notified year by year since 1916 are :—

		<i>Births registered.</i>	<i>Births notified.</i>	<i>Percentage notified.</i>
1916	...	5,852	4,620	78.9
1917	...	4,786	4,261	89.0
1918	...	5,001	4,504	90.0
1919	...	5,275	4,805	91.1
1920	...	7,658	6,767	89.7
1921	...	6,528	5,898	90.4
1922	...	6,098	5,591	91.8
1923	...	5,953	5,598	93.9

For the registration of births, parents are allowed six weeks, and the advantage of notification is that the births have to be reported to the Medical Officer of Health within 36 hours of the occurrence, thus enabling Health Visitors to give advice and assistance in the early days after birth at the time when special care is most needed.

2. PROVISION OF MIDWIVES.

The circumstances of the County have steadily improved, mainly due to the efforts of the County Nursing Association with assistance from the County Council. At the end of 1917 there were 59 parishes without the services of a certified midwife, but by December 1923 only 32. This statement does not, however, show all the improvement, for whereas in 1917 44 civil parishes were served by untrained midwives only, that number was reduced by 1923 to 32 by the replacement of the untrained women by district nurse midwives, most of them trained by the County Nursing Association. The total number of the Associations was increased from 91 in 1917 to 118 in 1923.

3. MEDICAL ASSISTANCE FOR CERTIFIED MIDWIVES.

Under the Rules of the Central Midwives Board, certified midwives are required to seek the help of doctors for any condition beyond their competence, and in order that the doctors so summoned may be assured of reasonable recompense County Councils are required by the Midwives Act 1918 to pay fees to them in accordance with a scale approved by the Ministry of Health. The proportion of cases in which the fees of doctors were paid in whole or in part, is shown year by year in the following table :—

	<i>Notices of Medical Help.</i>	<i>Claims. Received.</i>	<i>%</i>	<i>Amount of Claims.</i>	<i>Paid by Patients.</i>	<i>Paid by County Council.</i>
1918 ...	437	12	2.7	£27 15 0	£7 12 0	£20 3 0
1919 ...	542	151	27.8	296 7 0	72 13 6	223 13 6
1920 ...	822	217	26.4	433 15 0	112 15 6	320 19 6
1921 ...	767	276	36.0	539 7 6	99 10 9	439 16 9
1922 ...	782	292	37.3	470 4 6	124 18 9	345 5 9
1923 ...	811	241	29.7	420 8 6	96 0 0	324 8 6

4. HEALTH VISITING.

Reference has been made in an earlier paragraph to the influence of district nurses, as such, in reducing infantile

illness: they continue their work as health visitors on behalf of the County Council up to the time of admission to one of the schools in the County. The numbers of such visits paid by them, the Health Visitors appointed by the Kingswood Urban District Council and the East and West Dean Rural District Councils and the 7 whole-time County Health Superintendents, year by year since 1916, are :—

				<i>Births referred to Visitors.</i>	<i>First Visits.</i>	<i>Total Visits.</i>
1916 (From 1st April)	...	...	...	1,472	1,857	3,735
1917	...	...	...	3,650	3,320	13,359
1918	...	...	...	4,019	3,461	23,818
1919	...	...	...	4,408	3,799	28,817
1920	...	...	...	5,969	5,552	38,396
1921	...	...	...	5,112	6,291	48,730
1922	...	...	...	5,561	6,725	61,512
1923	...	...	...	5,185	7,245	62,177

The last figure includes 7,019 visits paid to expectant mothers. That increasing attention is given to this branch of the work is satisfactory, for probably at the stage progress has reached there is greater scope for prevention than in other directions at the present time.

5. INFANT PROTECTION VISITING.

The supervision of “boarded-out children” is undertaken by the Health Visitors in the areas of 4 Poor Law Unions, and 33 cases were under visitation by them during 1923. It is hoped that the Guardians of other Unions will, in time, appreciate the advantage of this arrangement.

6. MEASLES VISITING.

It is now realised fairly generally that much of the danger of measles can be obviated if reasonable precautions are adopted, but even now many mothers do not take sufficient care, though measles is a far more serious cause of illness and death among children than scarlet fever or even diphtheria. For this reason advantage is taken of the services of district nurses to give advice—and nursing, if necessary. A short statement of the work done in 1923 and previous years, together with the cost, follows :—

				<i>Cases visited.</i>			<i>No. of</i>	<i>No.</i>	<i>Cost.</i>		
				<i>Mild.</i>	<i>Severe.</i>	<i>Total.</i>	<i>Visits.</i>	<i>Nursed.</i>	£	s.	d.
1919 (From 30th Oct.)	...	...	...	118	13	131	288	5	9	16	9
1920	...	...	...	576	72	648	1,807	62	42	2	9
1921	...	...	...	11	1	12	38	1	0	15	0
1922	...	...	...	284	—	284	549	11	17	15	0
1923	...	...	...	266	44	310	1,141	61	26	7	6

7. WELFARE CENTRES.

Formal Centres are of less value in scattered county areas than in large towns, but the County Council willingly encourage and assist voluntary efforts. The number of centres was increased from 24 in 1918 to 30 in 1923. Medical Officers of Health in their reports speak highly of the value of the efforts of the voluntary workers who give up their time to attend at the Centres, even though some are of a very modest character.

8. INSTITUTIONAL PROVISION FOR CONFINEMENTS.

To no subject has greater attention been given of recent years than to the unsatisfactory character of the housing of the community; difficult as are the conditions of home life at ordinary times, they are periodically accentuated as families increase, and probably there are few places in the County where special accommodation—even of a simple character—for some mothers at the times of their confinement would not be very useful. It is particularly required when specially difficult confinements are anticipated. Gloucestershire is fortunate in having special maternity wards at two Nursing Homes, namely in Cheltenham and in Gloucester, and that greater use is not made of them is probably due in considerable measure to the distances patients would have to be carried and the recognition of conditions too late for long journeys. So far as practicable efforts are made to ensure that no patient in urgent need of institutional treatment does not have the advantages, but the following statement shows that the demands have not been great:—

				<i>Admissions.</i>	<i>Total fees.</i>			<i>Paid by Patients.</i>		
					£	s.	d.	£	s.	d.
1917 (6 months)				4	7	15	0	—		
1918	...	...	...	14	121	0	7	20	15	0
1919	...	...	...	6	48	10	1	5	1	9
1920	...	...	...	16	90	15	3	23	19	0
1921	...	...	...	14	86	16	3	31	11	0
1922	...	...	...	12	77	11	6	17	3	0
1923	...	...	...	15	86	5	10	37	5	6

The circumstances of the County would be greatly improved if a room in each Cottage Hospital could be made available for maternity cases, and in any development the desirability of providing such accommodation should be borne in mind.

9. HOSPITAL TREATMENT OF INFANTS.

No cases were admitted to Hospitals during 1923 by the Maternity and Child Welfare Committee directly, but arrangements have now been made whereby cases are treated under the Scheme for the Extension of Medical Services, orthopaedic treatment having been given in two cases during 1923. The numbers treated during previous years were :—

1919	...	...	1
1920	...	...	2
1921	...	...	6
1922	...	...	4

10. ALLOWANCES OF MILK.

The opportunity of obtaining grants of milk for mothers and young children is greatly appreciated by the Health Visitors, and the recipients are very grateful. The supply is granted originally for four weeks and is extended month by month on the personal recommendation of the Health Visitor, generally for several months. Though no direct figures are available to demonstrate the value of this form of assistance, the addition of a pint of milk daily to the ordinary diet available for a mother, expectant or nursing, or an infant, must be helpful in tiding over a difficult time. The number of grants in 1923 and previous years were :—

	<i>Expectant and Nursing Mothers.</i>	<i>Infants.</i>	<i>Total.</i>
June 1918—March 1919...	19	17	36
April 1919—March 1920...	121	142	263
April 1920—March 1921...	199	245	444
April 1921—March 1922...	181	231	412
April 1922—March 1923...	274	318	592
April 1923—March 1924...	340	351	691

11. CONFERENCE OF NURSES.

A third Conference of Nurses was held in May 1924, and was as successful as those held in the two previous years. There are probably few classes who carry on their work in

so isolated conditions as District Nurses, and these Conferences have been very helpful to them. The keenness of the nurses is shown by the attendances at the lectures which averaged 100 this year, an even higher figure than at the two previous conferences. On this occasion demonstrations were held at the Gloucester Royal Infirmary and the Infant Welfare Headquarters, Barton Street, Gloucester, and the opportunity of attending them was particularly appreciated.

12. MILK CAMPAIGN.

In the introductory note to my last Report I suggested that the time had arrived when general health propaganda might be undertaken with considerable advantage, and at their first meeting in 1924 the Maternity and Child Welfare Committee accepted an exceptionally favourable opportunity of carrying out a Milk Campaign in co-operation with the City Authority and with the assistance of the National Milk Publicity Council, which agreed to bear two-thirds of the cost. The main objects are two in number :—(1) To impress upon the general public the value of milk as a food, and (2) to ensure the production of an abundant supply of milk of a good quality.

The first meeting was held at the Shire Hall on 28th April, and the general campaign was commenced on the 8th May with an address to the Boy Scouts in Gloucester. The intention is that an address shall be given to any group of persons desiring it, and that all sections of the community shall have the opportunity. Arrangements have been made whereby a demonstration with models shall be given in all schools in the County by trained lecturers of the National Council ; all the schools in the County and in the City of Gloucester had been visited by the girl demonstrators by the 31st July. After the address the children write essays, and from these it appears that the essential facts have been grasped in an intelligent manner. Women's Institutes, Men's Clubs, Red Cross Detachments and other organisations are included in the programme in addition to works of various kinds.

Addresses have also been given by Mr. A. D. Allen, the Organiser of the National Milk Publicity Council, to meetings of Milk Distributors, and demonstrations in the methods of

producing clean milk even under conditions other than ideal are given at farms.

In the winter of 1924-5 the Agricultural Sub-Committee of the Education Committee have arranged a "milk competition," which will be a suitable end of the immediate campaign.

In all directions the campaign has met with considerable encouragement, and there is good reason for anticipating that the results of this first propaganda campaign will be satisfactory. To obtain lasting benefit, some permanent procedure for the future is desired, and possibly the two most useful directions will be systematic addresses in schools and other places by a trained demonstrator, and periodic competitions in the matter of cleanliness, neither of which would be costly arrangements. For further notes see p. 34.

WELFARE OF THE BLIND.

The report of the County Association for the Blind on their work for the County Council for the year to 31st March, 1924, yields evidence of the detailed consideration given to the blind persons in the County by the voluntary workers of the Association and the Home Teachers, and the kindly interest taken in their comfort and happiness, but scarcely does full justice to their activities. The classes and meetings originating in that started at Charfield in 1922 have done much to brighten the lives of the blind who can get to them, and it is hoped that social work of this character may be developed.

GLOUCESTERSHIRE COUNTY ASSOCIATION FOR BLIND.

NOTES ON WORK DURING 1923-24.

GENERAL. The number of the blind on the register (excluding the City) was 576. There are very few of these with whom we are not in touch either through 65 voluntary workers, or through the Home Teachers. The increased grant from the County Council has enabled needy cases to have more generous temporary grants: from these and other sources assistance has been given to 87 blind persons. The Association has been successful in obtaining Hetherington and Clothworkers' pensions for 8 persons and help from Gardner's Trust, Gyde Trust and the National Institute in special cases. Other assistance given to some 40 old or needy blind consists in gifts of warm knitted garments made by other blind.

TRAINING. We have made, or assisted in making, arrangements re training of 6 cases, and are assisting in paying the fees for 3.

OCCUPATION. The Home Workers registered are now increased to 16: they are looked after by the Bristol Institution in co-operation with this Association and we give help in disposing of their goods. Other workers, not sufficiently skilled to be registered as Home Workers, are helped by the Association to sell their goods, and in many cases we provide materials and then take the goods, paying the workers for the making, and either sell the goods, or distribute them to needy blind as before mentioned, thus helping both the workers and the needy. Two stalls have been arranged at Fetes, where we have been kindly allowed to sell work done by blind.

HOME TEACHING. The Association have appointed a whole time Home Visitor and Teacher for Cheltenham and neighbourhood with about 120 under her care, and a part time Visitor in the Forest of Dean area. Braille and Moon lessons have been given to 25 in the homes and at Classes. Classes have been held at Charfield (fortnightly) and Cirencester (every 6 weeks) and will be commenced shortly in Cheltenham. At Charfield 10-15 attend and are given instruction in Braille, Moon and simple handicrafts; some read Shakespeare in Braille, games are played, there is generally music and occasionally a short talk on some subject of interest. The Cirencester Class has started more recently and is on similar lines. Instruction has also been given in their homes to a few in light handicrafts. Competitions are arranged for the Braillists in the county, and a Braille and Moon magazine circulation scheme is running. We have just started a Braille Study Circle by correspondence. We regard these activities as of great importance in helping to preserve and develop the mentality of the blind and give them larger interests.

PREVENTION OF BLINDNESS. In this connection we help, where necessary, towards the cost of fares to Hospitals for examination or treatment of the eyes, both with children and adults threatened with blindness or partial blindness.

APPROXIMATE EXPENDITURE OF THE GRANT OF £620 FOR 1923-24.

	£	s.	d.
Expenses of registration (as required by M/H)	25	0	0
To Bristol Institution for services <i>re</i> Home Workers and part-time Home Teacher	180	0	0
Necessitous Blind	160	0	0
Training cases	70	0	0
Augmentation of wages of employees at Cheltenham Workshops	70	0	0
Subscription to National Library for Blind ...	25	0	0
Expenses of Home Teachers, materials and apparatus, Classes and other incidental expenses	90	0	0
	<hr/>	<hr/>	<hr/>
	£620	0	0

The statement of accounts refers only to the expenditure of the grant of the County Council, and it would not be possible for the County Association to benefit the blind as they do were it not for the further moneys forthcoming from other sources.

INFECTIOUS DISEASES.

SMALL-POX.

After a period of 11 years without a single case, small-pox was present in the County in epidemic form in 1923. The history of the outbreak up to 6th September, 1923, was given in my last report, and it is now only necessary to make it complete. The first known cases occurred in Cheltenham Municipal Borough in February 1923, and at the time the source was obscure ; later it was known that an outbreak of a mild form of the disease was then in progress in the City of Gloucester, from which it spread not only to Cheltenham but also to widely-scattered parts of the County. Up to the present time (13th June, 1924) the total number of cases reported has been 419, distributed according to locality as follows :—

East Dean R.D.	...	...	...	...	306
Cheltenham M.B.	...	...	...	...	40
Gloucester R.D.	...	...	...	...	25
Stroud R.D.	...	...	...	...	24
Stroud U.D.	...	...	...	...	5
Dursley R.D.	...	...	...	...	5
Wheatenhurst R.D.	...	...	...	...	4
Cirencester U.D.	...	...	...	...	2
Cirencester R.D.	...	...	...	...	2
Westbury-on-Severn U.D.	...	...	...	...	2
Lydney R.D.	...	...	...	...	2
Cheltenham R.D.	...	...	...	...	1
Tetbury R.D.	...	...	...	...	1
					419

No case occurred in any district except East Dean Rural District after 22nd October, 1923 ; the largest number of cases in any week was 33 (all in East Dean) in that ending 15th December, 1923. The last known case was notified on 22nd May.

As regards the vaccinal condition of the patients, information has been given with respect to 377 of the 419 cases. 297 (78.8%) of the patients had not been vaccinated, 19 (5%) were vaccinated up to 9 days before and 4 days after the onset of the attack, 58 (15.4%) had been vaccinated in infancy. One person was re-vaccinated (in 1896), one was vaccinated three weeks before being attacked, and one man in Germany, the stock of lymph used being described as unreliable. The general experience appears to be that—as was expressed by one of the Medical Officers in the City—a very thin screen of vaccination was protective in this outbreak.

It will not be without interest to make a brief comparison with the outbreak, which lives in the memories of most people, occurring in 1896. In that outbreak, also spreading from the City, 162 cases were reported in 16 districts, the largest number occurring in the Gloucester Rural District ; the cases in the two outbreaks were distributed as follows :—

	1896.	1923-4.
URBAN DISTRICTS—		
Cheltenham	22	40
Cirencester	2	2
Nailsworth	2	—
Stroud	1	5
Westbury-on-Severn ...	3	2
RURAL DISTRICTS—		
Cheltenham	—	1
Chipping Sodbury	1	—
Cirencester	—	2
Dursley	1	5
East Dean	12	306
Gloucester	81	25
Lydney	2	2
Newent	3	—
Stroud	9	24
Tetbury	—	1
Tewkesbury	2	1
Thornbury	7	—
West Dean	9	—
Wheatenhurst	5	4
	<hr/> 162	<hr/> 419

Among the 162 cases in 1896 there were 19 deaths, but only one among the 1923-4 cases. This bears out the statement already made that the general type of the disease in 1923-4 was mild, but there were many instances in which the eruption was semi-confluent and some of the patients were very ill. The differences in the distribution in the two outbreaks are of some interest. For example, in 1896 the rural district round Gloucester was the most severely attacked, while in 1923 it came off much more lightly than might have been anticipated. Also, in 1896 in no single district does the disease appear to have gained a hold as it did in 1923-4 in East Dean ; that this was the case is probably due to the greater ease with which cases of the severe type were recognisable in 1896. On the other hand it is all the more remarkable that with the greater difficulty of recognising cases of the mild type in 1923-4 in only one area did it gain any real hold and extend over any great period of time ; with this difficulty it is all the more to the credit of those concerned that the outbreaks

in general were so limited. The work entailed on the Medical Officers of Health is rather in inverse proportion to the number of cases occurring, as the effective prevention of extension means large numbers of negative examinations and following up of contacts closely.

The chief lessons from this outbreak appear to be :—

1. Any part of the country where cases exist is a source of danger to all others, and every part has an interest in ensuring that the country is free.
2. Infection can readily be introduced into a locality and remain unrecognised.
3. Danger can be avoided by notice to the public as to the possibility of infection—especially when it is likely to occur—by arrangements for prompt recognition of the condition, including consultation, and by close following up of contacts.
4. Accommodation for cases, available at any time, is essential.
5. Comparatively remote vaccination is an effective protection against the mild type of small-pox, but as mildness in type cannot be assured, recent general vaccination is necessary to ensure complete protection for any community.

SCARLET FEVER.

The number of cases of scarlet fever (783) was higher than in any year since 1915 (1,169). Complete information is not yet available, but it appears that the disease generally was of the same mild type as in recent years; as will be seen from the following table the case fatality (deaths per 100 cases) is about one-half what it was 25 years ago :—

	1923	1922	1921	1920	1917-1919	1914-1916	1911-1913	1908-1910	1905-1907	1902-1904	1899-1901	1896-1898
Cases	783	618	451	515	293	1152	999	648	689	1216	1079	1045
Deaths	8	4	5	5	1	14	11	7	9	22	21	21
Hospital Cases ...	388	293	198	163	—	—	—	—	—	—	—	—
Case Fatality ...	1.02	.65	1.11	.97	.46	1.24	1.07	1.08	1.26	1.84	1.98	1.98
Death-rate per 1,000	.01	.02	.02	—	—	—	—	—	—	—	—	—
England and Wales												
Death-rate per 1,000	.03	.04	.03	.04	—	—	—	—	—	—	—	—

DIPHTHERIA.

The number of cases from information so far available was the lowest on record, namely 180 ; the previous smallest figure was 219 in 1919. Comparison of the incidence in groups of three years and in each of the last four years is given in the following table :—

	1923	1922	1921	1920	1917-1919	1914-1916	1911-1913	1908-1910	1905-1907	1902-1904	1899-1901	1896-1898
Cases	180	332	376	443	273	476	406	479	595	374	387	301
Deaths	15	25	40	27	29	64	27	44	51	38	52	65
Hospital Cases ...	92	177	199	261	—	—	—	—	—	—	—	—
Case Fatality ...	8.3	7.5	10.6	6.1	10.6	13.5	6.6	9.25	8.5	10.1	13.5	21.7
Death-rate per 1,000	—	.08	.12	.08	—	—	—	—	—	—	—	—
England and Wales Death-rate per 1,000	.07	.11	.12	.15	—	—	—	—	—	—	—	—

ENTERIC FEVER.

There was a large increase in the number of cases notified under this heading, namely 89 (so far as information is available), which was exceeded only in 1911 (90) since 1902 (96). The next table gives a general summary of the records since 1896 ; from this the period of maximum incidence was 1899–1901 :—

	1923	1922	1921	1920	1917-1919	1914-1916	1911-1913	1908-1910	1905-1907	1902-1904	1899-1901	1896-1898
Cases	89	33	27	23	41	41	51	49	65	77	141	88
Deaths	9	1	7	1	7	9	6	9	9	10	23	18
Hospital Cases ...	32	16	11	16	—	—	—	—	—	—	—	—
Case Fatality ...	10.1	3.0	25.9	4.3	17.9	23.0	11.8	19.2	13.8	13.4	16.1	20.9
Death-rate per 1,000	.003	.02	.003	—	—	—	—	—	—	—	—	—
England and Wales Death-rate per 1,000	.01	.01	.02	.01	—	—	—	—	—	—	—	—

There was then more or less general prevalence, the greatest numbers being contributed by Cheltenham M.B., Coleford U.D., Kingswood U.D., Stroud U. and R.D., and Warmley and West Dean R.D. The 89 cases in 1923 were distributed over 18 of the 33 districts, the largest numbers being reported from Gloucester

R.D. (28), Cheltenham M.B. (20), Lydney R.D. (8), East Dean R.D. (6), West Dean R.D. (5), Newent and Tewkesbury R.D. (4 each). As a result of special enquiries, information was received with respect to 58 cases, which revealed that half of them were of the type known as paratyphoid B, a form of the disease connected with illness generally due to contamination of food. About the same time there was a similar unusual prevalence in the City of Gloucester, and an article of food common to a very large proportion of the cases was suspected as being the cause; one difficulty in reaching an exact conclusion was that the cases were distributed over so long a period, some occurring quite early in the year but most in the late autumn, the latter being the time when enteric fever is usually prevalent. The food theory was strongly supported by the fact that so many of the patients living very widely apart had consumed cream in one form or another—chiefly in cream buns—at the same place in the City. As the article in question was favoured by many people, it was consumed by large numbers of persons, and no information is available as to the proportion of these who afterwards suffered from paratyphoid fever, but it was probably very small. Further doubt was thrown on the reliability of the theory by the fact the full investigations at the source yielded negative results only. There were numerous outbreaks of a similar kind in many parts of the country, and, though like suspicions were aroused with reference to particular articles of food, in no instance, so far as I am aware, has the connection been proved up to the present time. Such connection has been proved in respect of certain outbreaks of typhoid fever in the past, and a striking—and about the first in this country—instance occurred at what was then known as the Bentry Inebriate Reformatory in 1906–7, where 27 cases occurred due to the cook, who was an intermittent carrier. The mere suspicion that the present set of cases might be due to food emphasizes the importance of ensuring that all persons engaged in handling it shall be not only healthy but also absolutely cleanly in their methods.

PUERPERAL FEVER.

According to the notifications only 3 cases occurred during the year, the lowest recorded; on the other hand, the deaths attributed to conditions included under this heading numbered 13, the maximum. The occasions on which certified midwives sought assistance for “rise of temperature” were 24, the average of the 17 previous years being 26; the midwives are rather over

than under anxious over this matter, and in a large number of instances it is found that the raised temperature is connected with some other condition than the confinement. Information as to the explanation of the deficiency in the number of notifications of cases is not available as I have not the particulars of the fatal cases, but it appears to point to the suggestion that the association of a fatal issue with a condition, more or less feverish, following confinement leads to puerperal fever being finally diagnosed.

OPHTHALMIA NEONATORUM.

In any case in which there is discharge from the baby's eyes, however slight, certified midwives are required to seek medical assistance; this happened on 42 occasions in 1923 and 54 in 1922. Under the Public Health (Ophthalmia Neonatorum) Regulations 1914, medical practitioners and certified midwives are required to notify under this heading, to the Medical Officer of Health of the district, all cases with "a purulent discharge from the eyes of an infant commencing within 21 days from the date of its birth." 16 cases of discharging eyes were notified in 1923 as being Ophthalmia Neonatorum. The danger of the condition is permanent damage to vision, and it is satisfactory to record that in no case during 1923 concerning which information has been given was any permanent effect left; in only one of the 109 cases notified in the past four years has any impairment of the vision been noted, and that only of slight degree, in 1921.

TUBERCULOSIS.

The arrangements in respect of tuberculosis in 1923 were the same as in the previous year, but towards the end of it the accommodation for pre-tubercular children at Standish House was increased from 38 to 78 beds.

The numbers of cases under review year by year are shewn in the following table:—

		PULMONARY.				NON-PULMONARY.			
		<i>Known cases</i>			<i>Survivors</i>	<i>Known cases</i>			<i>Survivors.</i>
		<i>in county</i>	<i>Deaths.</i>	<i>%</i>		<i>in county</i>	<i>Deaths.</i>	<i>%</i>	
		<i>during year.</i>		<i>rate.</i>		<i>during year.</i>		<i>rate.</i>	
1913	...	493	41	8.3	452	121	13	10.7	108
1914	...	977	209	21.4	768	223	25	11.2	198
1915	...	1,242	214	17.2	1,028	307	36	11.7	271
1916	...	1,459	345	23.6	1,114	368	50	13.6	318
1917	...	1,490	242	16.2	1,248	381	35	9.2	346
1918	...	1,685	260	15.4	1,425	408	27	6.6	381
1919	...	1,686	234	13.9	1,452	428	39	9.1	389
1920	...	1,736	211	12.2	1,525	423	25	5.9	398
1921	...	1,784	190	10.6	1,594	442	25	5.65	417
1922	...	1,923	248	12.9	1,675	463	29	6.3	434
1923	...	1,954	191	9.8	1,763	573	51	8.9	522

The number of persons reported to have pulmonary tuberculosis and to be living at the end of each year has increased since 1915 by about 90 per annum, the total at the end of 1923 being 1,763; in other words, one out of every 190 persons had recognisable disease of the lungs. The death rate among this notified population has fallen more or less steadily from 16.2% in 1917 to 9.8% in 1923. The greatest fatality is in the year of notification, nearly one-third of the cases dying before the end of the year fairly constantly; about one-fifth die in the second year, but after that the fatality falls rapidly from about 10% in the third, 6.5% in the fourth, and 4.5% in the fifth to 2% in the 6th to 9th years after notification. This shows the tendency of the disease to become chronic and more or less inactive, and is a corollary of the well-known fact that while in childhood very few persons escape infection, most individuals possess sufficient resisting power to prevent the development of recognisable disease; similarly, if the individual has the necessary resistance to survive the acute attack leading to illness and notification, the longer he lives the greater his chance of his overcoming the infection altogether. The proportions of survivors at the end of 1923 among those notified in different years are

1913 ...	...	about one-third	after ten years.
1914-16	...	„ one-half	„ nine to seven years.
1917-1921	...	„ three-fifths	„ six to two years.
1922 ...	...	„ four-fifths	„ one year.

From such information as the above, the two important lines of action should be (1) the limitation of massive infection, particularly of the young, and (2) the strengthening of the resisting powers of possibly infected persons, particularly of children. There are many factors—general development, habits, feeding, housing, occupation, etc.—beyond the range of the County Council, but in the matters of limiting massive infection and increasing resisting power in individual cases, certain provision has been made. Between the beds for advanced cases at Standish House and the City and Stroud Isolation Hospitals there is accommodation for 72 patients at any one time; for early cases there are 62 beds; and for poorly nourished children 75 beds. It is hoped that in time the accommodation for children will be greatly increased.

The following is a very abbreviated statement of the work done in 1923 and previous years:—

A.—DISPENSARIES AT CHELTENHAM, CINDERFORD, GLOUCESTER, STROUD, THORNBURY AND WARMLEY.

<i>New Cases reported.*</i>				<i>Work of Dispensaries.</i>		
	<i>Pulmonary.</i>	<i>Other forms.</i>	<i>Total.</i>	<i>New Cases.</i>	<i>Persons seen.</i>	<i>Attendances.</i>
1915...	542	137	679	921	?	4,741
1916...	476	116	592	749	?	3,743
1917...	417	80	497	734	1,216	4,069
1918...	456	65	521	879	1,483	5,211
1919...	403	57	460	693*	1,218	5,233
1920...	388	65	453	639*	1,193	5,005
1921...	337	58	395	620	1,311	5,346
1922...	373	63	436	557	1,318	5,553
1923...	345	127	472	597	1,288	5,886

*Excluding City.

Cases are also seen at the out stations by the Tuberculosis Officer as and when there are patients in the respective districts requiring examination.

B.—SHELTERS.

The number of shelters in use was 114 : 38 were transferred during 1923 for the use of new cases. The use of one shelter was given up owing to its having got beyond repair.

C.—RESIDENTIAL INSTITUTIONS.

The numbers of beds include all the accommodation available but the admissions refer to cases from the County only.

C.—RESIDENTIAL INSTITUTIONS (COUNTY CASES ONLY).

		<i>Beds available.</i>		<i>Admissions.</i>				
		1923		1919	1920	1921	1922	1923
1.	<i>Early cases in both sexes and advanced cases among males</i>							
	Standish House ...	99	$\left\{ \begin{array}{l} \text{M. } 73 \\ \text{F. } 26 \end{array} \right\}$	133*	135*	102*	170	178
2.	<i>Advanced cases in City and Stroud Isolation Hospitals</i>	36		69	78	97	80	59
3.	<i>Surgical cases.</i>							
	Cheltenham General Hospital	10		23	34	23	14	24
4.	<i>Children.</i>							
	(a) Alexandra Home†	15		33	24	21	25	17
	(b) Standish House ...	78†		—	—	—	40	68

*For these years, the Sanatorium was Cranham Lodge.

†40 of these beds were not available till the very end of 1923.

‡The Alexandra Home was closed at the end of 1923.

D.—HOME VISITS BY NURSES.

As mentioned before, the very useful work done by the nurses in their visits to homes cannot be adequately represented by figures : they are helpful particularly in making the best use of existing accommodation in view of the infectious nature of pulmonary tuberculosis and in other directions have a useful influence. The numbers of visits paid by the nurses year by year are :—

1917	...	4,578	1921	...	7,822
1918	...	5,904	1922	...	9,507
1919	...	6,243	1923	...	9,618
1920	...	7,185			

VENEREAL DISEASES.

The number of persons coming under observation increased from 219 in 1918 to 422 in 1920, and then decreased to 225 in 1922 almost the same figure as in 1918. The decrease did not continue into 1923, when the new patients seen increased very slightly to 230 and the attendances rose to 3,322, nearly 600 more than in the previous year.

The numbers year by year are :—

NEW CASES.										
	<i>Syphilis.</i>	<i>Soft</i>	<i>Gonor-</i>	<i>Not</i>	<i>Total.</i>	<i>Males.</i>	<i>Females.</i>	<i>Attend-</i>	<i>In-patient</i>	<i>Specimens</i>
	<i>Chancre.</i>	<i>rhœa.</i>	<i>Venereal.</i>					<i>ances.</i>	<i>days.</i>	<i>examined</i>
1917	31	2	15	13	61*	25*	36*	258*	524*	75*
1918	77	7	77	58	219	135*	76*	1,090	662	214*
1919	125	16	143	68	352	264*	74*	2,729	1,549	249*
1920	192	7	159	64	422	280*	134*	3,982	1,035	527*
1921	103	6	87	91	287	175*	65*	3,292	1,083	484*
1922	94	3	77	51	225	110†	50†	2,727	810	422*
1923	80	2	72	76	230	89†	75†	3,322	654	632*

* Excluding Bristol Hospitals.

† Excluding Bristol and Gloucester Hospitals.

The Medical Home at Charlton Kings for women and girls was finally closed on 31st March, 1924. This decision was reached with reluctance, as the provision was very useful for the cases admitted ; on the other hand the following table shows that the numbers of cases scarcely justified the maintenance charges of about £1,000 per annum :—

				<i>Patients.</i>		<i>Patients' Days.</i>
				<i>Girls and Women.</i>	<i>Infants.</i>	
1919 (Six Months)	...	...	...	5	—	211
1920	...	...	...	19*	8	1,697
1921	...	...	...	14*	6	1,672
1922	...	...	...	16*	4	2,155
1923	...	...	...	11	0	1,200
1924 (Three Months)	...	...	...	3	0	149

* including 1 readmission.

The Committee, however, have been informed that a hostel of the same kind has been opened in Bristol, and have been offered accommodation there for cases from the County.

BACTERIOLOGICAL AND PATHOLOGICAL WORK.

The following is a record of the work done in the Public Health Laboratory of the University of Bristol during 1923 and previous years :—

				<i>Diphtheria.</i>	<i>Enteric Fever.</i>	<i>Tuber- culosis.</i>	<i>Cerebro-spinal Fever.</i>	<i>Others.</i>	<i>Total.</i>
1905–14 yearly average	...	...	...	1,553	49	207	—	—	1,809
1915	...	...	...	1,713	31	369	6	—	2,119
1916	...	...	...	721	32	348	1	—	1,102
1917	...	...	...	716	57	523	8	—	1,304
1918	...	...	...	687	35	517	6	—	1,245
1919	...	...	...	506	20	569	2	8	2,005
1920	...	...	...	1,352	29	692	2	6	2,081
1921	...	...	...	2,465	37	804	—	2	3,308
1922	...	...	...	1,459	35	1,108	3	—	2,605
1923	...	...	...	682	112	1,347	5	—	2,146

Medical practitioners appreciate increasingly the value of bacteriological and pathological work as an aid to diagnosis and treatment and not infrequently requests are received for examinations not included in the very limited arrangements with the Bristol University. During 1923 the importance of this branch of work was urged by the Ministry of Health in particular reference to cancer, and there can be no doubt but that the resources of any area in the matter of prevention and treatment are incomplete without adequate arrangements for bacteriological and pathological examinations. An exceptionally favourable offer for undertaking the work in comprehensive manner was received from the Bristol University in 1920 and would have been accepted but for the financial stringency then existing. The time has arrived for re-opening the matter in the hope that equally favourable terms may be offered.

ISOLATION HOSPITALS.

SMALL-POX.

The circumstances of the County were reviewed in my last Report. Since it was issued the negotiations for the formation of a joint Hospital District for the districts west of the Severn have been completed, and the Ministry of Health have issued an Order (dated 1st May, 1924) constituting the following eight districts—Awre, Coleford, Newnham and Westbury-on-Severn Urban, and East Dean, Lydney, Newent and West Dean Rural—a joint district under Section 279 of the Public Health Act 1875, under the style of the North-West Gloucestershire Joint Small-pox Hospital Order 1924.

Further efforts were made to secure similar combination of the five districts in the south of the County—Kingswood Urban, and Chipping Sodbury, Dursley, Thornbury and Warmley Rural; conferences were held, but so far the Councils have not agreed to adopt this economical manner of providing accommodation for small-pox.

OTHER INFECTIOUS DISEASES.

No change was made during 1923, but negotiations were proceeding between the Coleford Urban and West Dean Rural District Councils on the one hand and the East Dean Joint Hospital Board on the other, with a view to their Hospital at The Wilderness being made available for cases from Coleford and West Dean. So far no definite result has been reached, but the circumstances of these two districts are still under consideration.

The remaining areas without accommodation of any kind are Stow-on-the-Wold and Tetbury Urban and Rural Districts.

HOUSING ACCOMMODATION.

This subject is still probably the most acute of all matters relating to the public health, and the solution has not yet been found. On the other hand the principle of subsidising building appears to have had considerable effect in increasing private activity, the number of private houses completed in 1923 being 380, which is above the pre-war average of about 350 per annum. The summary of the present position is

Estimated number of houses required, November, 1919,	6,399
Number of houses proposed in schemes	... .. 4,871
Number of houses completed:—	

			<i>Under schemes.</i>	<i>Privately.</i>	
1919	...	...	—	53	
1920	...	...	98	74	
1921	...	...	865	171	
1922	...	...	637	188	
1923	...	...	12	380	
			—	—	
	Totals	...	1,612	866	
			—	—	
Total houses built, 1919–1923 ...					2,478

Taking the estimated requirements in November 1919 as 6,400, and allowing for the ordinary increase required at the inadequate pre-war rate of 350 per annum for four years, namely 1,400, the total requirements would be 7,800. Towards this total 2,478 houses have been built, leaving a deficit of about 5,300. Even this number would only bring the accommodation to the unsatisfactory pre-war standard. On the other hand the experience of 1923 was encouraging in that, with the assistance of the subsidy, the numbers of houses built by private enterprise in 1921 and 1922 (171 and 188) had increased in 1923 to 380. The uncertainty of the future has, it has been said, led people to hold their hands, and the prospects of private building on an extended scale are more doubtful than they were.

In previous reports special reference was made to the possibility of improving conditions very considerably by the repair of existing houses which are now in bad condition, and an example was given of the restoration of two tumble-down cottages whereby two good houses were provided at considerably less than half the cost of two new dwellings.

Of 4,286 houses inspected during 1923, 1,739, or 40.5% were regarded as “not in all respects reasonably fit for human habitation,” and 88, or 2.1%, as “unfit for human habitation.” These figures are worse than those of the previous year, and might be taken as indicating that many existing houses are further deteriorating. 1,408, or 81%, of the 1,739 defective houses were reported to have been made fit by the end of the year. Though 88 houses were regarded as unfit for habitation, closing orders were made with respect to only 41; the reason given by medical officers of health for the impracticability of closing houses is the absence of alternative accommodation.

Particular reference to another aspect of this matter is made by Mr. Glynn Warne, Sanitary Inspector for the Kingswood Urban District; in that district it is reported that: “Over-

crowding continues to increase and to give rise to considerable anxiety. There are more than 300 houses with more than one family occupying them. No improvement can be effected until the supply of houses begins to bear some relation to the demand." From the returns made in respect of this district, which has a population of 13,480 persons, and the average number of persons per house (4.62) is the highest in the County, only 10 houses have been built during the past five years—4 by the Council and 6 by private enterprise.

RIVERS POLLUTION.

The County is mainly in the Severn watershed, but about one-fourth of the area drains into the Thames. In the Severn watershed the authorities responsible for preventing pollution of the streams and river are the Local Sanitary Authorities and the County Council.

These Authorities have the same powers over the Thames and its tributaries, but mainly owing to the fact that the Thames is used as the source of water supply for London, the Thames Conservancy Board have been endowed with special powers for the prevention of pollution.

The Board considered that their present income was insufficient, and that additional sources of revenue should be found, including a rate on riparian Counties, and in this opinion were supported by an Inter-Departmental Committee of the Ministry of Health and the Ministry of Transport before which evidence was given on behalf of Gloucestershire by Mr. J. S. Gibbons, Vice-Chairman of the Agricultural Committee, and by the County Medical Officer of Health. With a view to obtaining the necessary powers, the Board introduced a Bill which would authorise them, among other matters, to obtain a contribution from riparian Counties, including Gloucestershire. The Authorities concerned opposed this proposal, and were successful in securing its deletion when the Bill came before the Select Committee of the House of Commons.

A survey of the Severn was considered at two Conferences convened by the Ministry of Agriculture and Fisheries, one at Worcester on 28th November, 1923, and the other at Shrewsbury on 19th March, 1924. At the latter it was decided, subject to the approval of the Authorities concerned, that a general survey of the main river should be made on the 24th September, 1924. Samples will be taken at various points along the river from its

source to the estuary, and the proportion of dissolved oxygen in each sample will be determined. The results will be tabulated by the Ministry and will be circulated for the information of the Authorities concerned.

The places in the County where pollution of streams has been specially noted this year are Coleford and Andoversford, both of which are old-standing subjects of comment. The manner in which pollution gradually increases until nuisance arises and even small places are put to heavy charges for schemes of sewerage and sewage disposal has been mentioned in previous reports, e.g. in 1907 (p. 45) and 1910 (p. 69).

SEWERAGE AND SEWAGE DISPOSAL.

Rather greater attention appears to have been given to works of sewerage and sewage disposal in 1923 than in many years past. The Warmley Disposal Works in the Kingswood U.D. were renovated, settling and screening tanks were added to the Prestbury Works, Cheltenham R.D., the disposal works at Yate, Chipping Sodbury R.D. were overhauled on being taken over from the Air Ministry, considerable progress was made towards the completion of the Wotton-under-Edge sewage disposal works, Dursley R.D., and Amberley, Stroud R.D., was sewerred. On the other hand there is no record of any work having been done at any one of the ten places specially mentioned in my last Report—Coleford, Chipping Campden, Mitcheldean, Longlevens, Hempsted, Quedgeley, Tuffley, Andoversford, Tredington and Lydbrook—where recurring trouble has been noted, in some cases for many years. Improvement is noted this year as being particularly necessary at Coleford, Chipping Campden (Campden R.D.), Chipping Sodbury (Chipping Sodbury R.D.), Kingswood (Dursley R.D.), Tuffley, Hempsted and Quedgeley (Gloucester R.D.), Andoversford, Sherborne and Southrop (Northleach R.D.), Tredington (Tewkesbury R.D.), and Alderton and Gothington (Winchcombe R.D.). The disposal of the drainage of groups of houses provided under housing schemes appears to have caused considerable trouble where efficient systems of sewerage have not existed : this is particularly noted in respect of Coleford during 1923. With the provision of baths in these houses the volume of liquid refuse—if the baths are used—will be larger than that from the usual houses in the County, and as housing schemes develop the problem of sewerage and sewage disposal will be accentuated in many parts. The

difficulty may be overcome in places where there is no danger to local water supplies by well arranged systems of tanks with overflows and sub-soil irrigation.

The privy vault—as usual—was the cause of nuisance, and it is satisfactory that over 90 were abolished during 1923 and replaced by better types of closet.

WATER SUPPLY.

As with respect to sewerage and sewage disposal, so in regard to water supply, the developments during 1923 showed a distinct tendency in the direction of improvement and works of greater or less importance were undertaken in different localities: those reported include:—

Urban Districts:

CHELTENHAM M.B.—It is proposed to instal new rapid filters on the Dowdeswell supply.

CIRENCESTER.—Application was made for a loan for a new borehole in Lewis Lane.

Rural Districts:

CAMPDEN.—Chipping Campden:—Negotiations for purchase of Maiden Well and land were completed and a loan of £2,500 was sanctioned. Moreton-in-the-Marsh.—A scheme was prepared for a new reservoir of 40,000 g. with pumping “tell-tale.”

CHELTENHAM AND CIRENCESTER.—Enlargement of the reservoir at Birdlip is proposed.

DURSLEY.—Dursley.—The well has been deepened.

Wotton-under-Edge.—A loan of £450 for extending mains from Ragnall to Coombe has been obtained.

EAST DEAN.—Ruardean Hill.—The scheme is nearly completed.

Blakeney Hill and Plump Hill.—Schemes are progressing.

LYDNEY.—Lydney.—Application has been made for a loan of £3,150 for additional service reservoir.

STROUD.—Slad.—The scheme has been carried out.

TEWKESBURY.—Tredington.—The scheme is completed.

On the other hand there are many places in the County the circumstances of which have been reported year after year as being unsatisfactory and which have not been remedied. With the exception of Ruardean Hill and Slad, the list of special places given on p. 38 of the Report for 1921 and the additions in 1922 still hold good. The large area of greatest need is the western half of the Forest of Dean, including Coleford U.D., on which a fairly full note was made in 1922 (p. 40); no definite action was taken in 1923, but the area was visited by an Engineering Inspector of the Ministry of Health (Mr. A. W. Brightmore,

M.Inst.C.E.), and a Conference has recently (1st May, 1924) been held with the Forestry Commission. It is now hoped that a satisfactory contribution will be made by the Commission and that the scheme prepared by the West Dean R.D.C. may be commenced at an early date.

FOODS AND DRUGS.

The following table shows the numbers of samples taken during the past sixteen years, and the numbers and proportions found adulterated (the figures in brackets are the numbers of adulterated samples) :—

			1908-21.		1922.		1923.	
			<i>Samples.</i>	<i>Percentage adulterated.</i>	<i>Samples.</i>	<i>Percentage adulterated.</i>	<i>Samples.</i>	<i>Percentage adulterated.</i>
Spirits of Nitre	...	...	37	(8) 21.6	4	—	4 (1)	25.0
Rum	...	...	57	(9) 15.7	—	—	—	—
Cocoa	...	...	90	(13) 14.4	7	—	21	—
Brandy	...	...	61	(8) 13.1	—	—	—	—
Milk	...	...	2,155	(251) 11.6	302 (18)	6.0	223 (23)	10.3
Mustard	...	...	85	(9) 10.6	—	—	2	—
Whiskey	...	...	363	(36) 9.9	—	—	—	—
Gin	...	...	175	(15) 8.6	—	—	—	—
Beer...	...	...	97	(4) 4.1	—	—	2	—
Camphorated Oil	...	...	74	(3) 4.1	6	—	6	—
Butter	...	...	1,032	(13) 1.3	26	—	15 (1)	6.7
Coffee	...	...	321	(2) .6	16	—	12	—
Sugar	...	...	269	(1) .4	5	—	—	—
Total			4,816	(372)	366 (18)	—	285 (25)	—
Other Foodstuffs	...	...	1,515	—	95	—	80 (1)	—
Other Alcoholic Drinks	...	...	5	—	—	—	—	—
Non-alcoholic Drinks	...	...	67	—	—	—	—	—
Other Drugs	...	...	182	—	6	—	4	—
Total			1,769	—	101	—	84 (1)	—
Grand Total	...	...	6,585	(372) 5.7	467 (18)	3.9	369 (26)	7.0

This statement confirms what has been repeated in previous years that, of the ordinary foods, milk—the most important—is that most commonly adulterated. The maximum adulterations reported during 1923 were abstraction of one-sixth of the fat and the addition of water to the extent of one-third of the volume of the milk. Sampling is now concentrated on milk, and it has been arranged that a much larger number of samples shall be taken.

PUBLIC HEALTH PROPAGANDA.

In the introductory note to the Report for 1922 it was suggested that the time has probably arrived when our chief energies should be directed to the general enlightenment of the community as to

the nature of preventable disease (including decay of the teeth) and as to health matters connected with the home. Already valuable personal work in this direction is undertaken by the County Health Superintendents and the District Nurses in the course of their daily rounds, but as regards the general public the only action taken has been a tuberculosis exhibition in 1912 and addresses in various places on venereal diseases in 1918. Concrete recommendations for propaganda work have been made recently by the Ministry of Health with respect to cancer (Cir. 426, 14th August, 1923) and Maternal Mortality (Cir. 517, 30th June, 1924).

The Public Health Committee decided in 1923 to undertake certain propaganda work during the present year, and an exceptionally favourable opportunity for commencing it in one of the most useful directions was offered in January 1924, namely in regard to milk, which is of all food substances the most important. That, at present, a very small amount is consumed (only about $\frac{1}{4}$ pint per person) and that the article available is not, on the whole, of so good a quality as it should be is agreed. These two facts necessitate the matter being approached from two points—(1) the education of the public generally in the value of milk as a food and its relative cheapness, and (2) impressing on the producers and distributors the practicability of producing and distributing milk of a satisfactory quality if reasonable measures of cleanliness are adopted. The Maternity and Child Welfare Committee were fortunate in being brought into touch with the National Milk Publicity Council in January 1924, and gratefully accepted their offer to carry out a milk campaign in the County with a proportionately small grant from the Committee. The campaign includes :—

1. A preliminary meeting of all persons interested held at the Shire Hall on 28th April, 1924, addresses being given by Dr. James Wheatley, County Medical Officer of Health for Shropshire, Mr. Wilfred Buckley, C.B.E. (chairman), and Mr. A. D. Allen, O.B.E. (organiser), of the National Milk Publicity Council.
2. Addresses in all the Elementary Schools in the City and County by Demonstrators of the National Milk Publicity Council.
3. Similar addresses to various bodies and organisations such as Girl Guides, Boy Scouts, Women's Institutes, etc.

4. Demonstrations in the production of clean milk at various farms in the County, and addresses to milk producers and distributors by the Organiser of the National Milk Publicity Council.
5. Public meetings in the larger centres.
6. A clean milk competition in the winter.

The addresses have been given in schools, and that the children have been thoroughly interested, is shewn in the essays which they have written afterwards. The essays selected by the respective Head Teachers at each school as being the best are sent to the Campaign Organiser, and the National Milk Publicity Council propose to give gold medals for the best of the selected essays and a certificate to each child whose essay has been sent by the Head Teacher. That Council is also presenting a delightful model milk bottle with fairies representing the food constituents to each school.

The addresses already given include

735 lectures in Elementary Schools,
 11 " " Secondary "
 97 " to adults in factories, wefare centres, women's clubs and
 co-operative guilds.
 5 "clean milk" demonstrations.

The demonstrations at the farms have been very instructive, and as an example of the difference in the condition of the milk produced under (1) the ordinary circumstances at even the more satisfactory farms and (2) the methods of the Milk Council is shewn in the following example:—

				(1)	(2)
<i>Date of Sample.</i>				<i>13/6/24</i>	<i>13/6/24</i>
Age of Milk when tested	...	...	...	20 hour	20 hours
Temperature	...	...	...	59°F.	59°F.
No. of Bacteria per 1 c.c.	...	...	...	224,000	1,000
Bacillus Coli in	1 c.c.	...	...	Found	Not found
"	"	1/10	"	...	"
"	"	1/100	"	...	"
"	"	1/1000	"	...	"

The propaganda already undertaken must be of considerable value, and, by the time the present campaign has been completed, its primary objects should have been realised. The next step will be to devise arrangements whereby the interest of the public and the milk producers and distributors may be maintained. As regards the former, the National Council are anxious to give continued assistance and have agreed to place a demonstrator in the County on very favourable terms ; for the latter, the direction in which it seems at present encouragement can be most usefully given would be to provide facilities for milk producers for the examination of milk and for bacterial counts. Proposals to this end will be laid before the Committee in due course.

SCHEME FOR THE EXTENSION OF MEDICAL SERVICES.

The scheme was outlined in the Annual Report for 1918 (p. 32 et seq.), and has now been in operation at 11 centres for nearly three years. The experience gained even in this short period has been very valuable, particularly in demonstrating the possibilities of the arrangements, especially if they could be made more comprehensive and applicable to the whole area. The work done under the scheme up to the end of 1923 and the cost is set out in the following table.

This statement shows that treatment has been given to a considerable number of individuals, many of whom would not otherwise have received attention appropriate to their conditions. Though this fact is satisfactory, it is by no means the most important result of the experience gained. This conclusion will be clearly realised by a consideration of the following observations.

In the past the general practice has been to appoint special medical officers for treatment, as new branches of work were imposed on local authorities—tuberculosis, venereal diseases, maternity and child welfare and the care of school children, with the result that the tendency has been to withdraw certain groups of persons and conditions from existing practitioners and thereby reduce their interest in these groups and, incidentally, the value of their services to the community. The alternative was to

SCHEME FOR THE EXTENSION OF MEDICAL SERVICES.

Summary of Work done and Cost from commencement to 31st December, 1923.

	Period to 31st December, 1921.			Year ending 31st December, 1922.			Year ending 31st December, 1923.				
OPENINGS.											
General Hospitals ...			92			48					
Out-Stations ...			225			407			407		
Total No. ...			317			455			407		
No. OF CASES.											
School Children ...			272			942			1,566		
Tuberculosis ...			44			117			111		
V.D. ...			5			4			9		
M. & C. W. ...			39			92			177		
Others ...			—			13			15		
General Hospitals ...			41			74			169		
Out-Stations ...			319			1,094			1,709		
Totals ...			360			1,168			1,878		
No. OF ATTENDANCES											
School Children ...			758			2,282			4,239		
Tuberculosis ...			173			471			548		
V.D. ...			24			57			87		
M. & C.W. ...			71			245			438		
Others ...			—			29			33		
General Hospitals ...			115			175			328		
Out-Stations ...			911			2,909			5,017		
Totals ...			1,026			3,084			5,345		
AVERAGE ATTENDANCE PER OPENING AT OUT- STATIONS ...											
			4.0			7.1			12.3		
SPECIALIST SERVICES											
Visits ...			12			45			63		
Cases seen ...			179			705			1,091		
Operations ...			56			159			312		
COST.											
Specialists :—											
	£	s.	d.	£	s.	d.	£	s.	d.		
Operations ...	88	4	0	250	8	6	391	19	0		
Examinations ...	344	19	6	424	12	0	605	8	0		
Medical Officers ...			433	3	6	375	0	6	997	7	0
Other items ...			378	0	0	625	16	0	723	9	0
			916	18	6	1,091	6	5	1,121	9	1
			£1,728	2	0	£2,392	2	11	£2,842	5	1

evolve a scheme whereby full advantage would be taken of existing agencies. This done, the co-operation of the large number of bodies and individuals concerned had to be secured ;

in due course all were consulted and finally the Government Departments concerned, the County Council and its Committees and the treatment bodies (hospitals, staffs and general practitioners) all agreed to carry out the scheme which was put into operation at 11 centres. The difficulties of administration were increased by this partial operation, and there has been adverse criticism in various quarters, due largely to lack of full appreciation of the circumstances and of the aims of the scheme.

The most far-reaching aim will require much longer experience before it can be fully realised—"from the stimulus of this close association of practitioners—specialist and general—with one another, there must incidentally, be important consequences in the direction of improvement of medical service generally"—but already there are signs and these will become more and more obvious as time goes on.

What has been definitely proved is, that a scheme utilising the services of existing agencies—local hospitals, their visiting staffs, general practitioners and nursing bodies—for treatment work on behalf of the authority of a County area can be worked satisfactorily and economically and that the fundamental basis of the arrangements in this County is sound. Minor difficulties have arisen for solution as they occurred, but the professional arrangements have worked smoothly with the Medical Advisory Committee, consisting of representatives of the staffs of the Hospitals and of the Medical Officers of the out-stations available to advise the managing committees on technical matters.

At the end of 1922 a Special Committee of the County Council was appointed to consider the present position, and reported in February 1923 that they had fully discussed the scheme at five meetings and recommended that the administration of the scheme be continued with modifications, including a reconstruction of the Managing Committee; in accordance therewith a Committee of the County Council, called the Medical Services Committee, was appointed. The work has since steadily developed, and the Committee have been encouraged to arrange a new out-station at Soundwell on the borders of Bristol, to make arrangements with the Gwy Hospital, Chepstow, on the borders of the County, and with the Winchcombe Cottage

Hospital for the treatment of cases, and to negotiate with the Committees of the Bourton-on-the-Water and Fairford Cottage Hospitals for the opening of out-stations at these places. The disadvantages arising from the fact that the treatment arrangements are not applicable over the whole of the County are thus being gradually removed. Those arising from the circumstance that the services are limited to a few groups of conditions and persons are not so readily overcome, but already a new condition has been added to the services, namely orthopædic treatment.

Much remains to be done before the organisation will be complete—the whole area covered and the range of services general, but the outlook is encouraging and the machinery for treatment is available for development in any direction.

1923.

TABLE I.—RATES, &c.

TABLE I.—RATES, &c.												
DISTRICTS.	BIRTHS.						DEATHS.					
	Estimated Population.	Legiti- mate.	Illegiti- mate.	Total.	% Illegiti- mate.	Birth Rate.	Total. No.	Rate.	Under one year.			
									Legiti- mate.	Illegiti- mate.	Total.	Infantile Mortality.
URBAN :												
Awre	1,162	21	2	23	8.7	19.8	9	7.7	—	—	—	—
Charlton Kings	4,287	59	6	65	9.2	15.2	52	12.1	2	1	3	46
Cheltenham	48,330	755	40	795	5.0	16.4	668	13.8	45	8	53	67
Cirencester	7,452	110	5	115	4.3	15.4	79	10.6	1	—	1	9
Coleford	2,788	51	5	56	8.9	20.1	21	7.5	1	—	1	18
Kingswood	13,480	248	3	251	1.2	18.6	138	10.2	16	—	16	64
Nailsworth	3,234	61	—	61	—	18.9	37	11.4	3	—	3	49
Newnham	1,207	26	4	30	13.3	24.8	12	9.95	—	—	—	—
Stow-on-the-Wold	1,153	22	1	23	4.3	19.9	23	19.9	—	—	—	—
Stroud	8,565	131	7	138	5.1	16.1	114	13.3	5	—	5	36
Tetbury	1,553	31	2	33	6.1	21.0	27	17.2	2	—	2	61
Tewkesbury	4,775	79	—	79	—	16.5	52	10.9	3	—	3	38
Westbury	1,840	24	2	26	7.7	14.1	17	9.2	—	—	—	—
Total Urban Districts	99,826	1,618	77	1,695	4.5	17.0	1,249	12.5	78	9	87	51
RURAL :												
Campden	5,404	85	7	92	7.6	17.0	84	15.5	3	—	3	33
Cheltenham	5,239	92	3	95	3.2	18.1	69	13.2	4	—	4	42
Chipping Sodbury	21,580	386	11	397	2.8	18.4	222	10.3	18	1	19	48
Cirencester	12,060	215	16	231	6.9	19.2	138	11.4	9	—	9	39
Dursley	12,600	218	6	224	2.7	17.8	132	10.5	9	—	9	40
East Dean and United Parishes...	21,120	462	27	489	5.5	23.2	252	11.9	23	2	25	51
Faringdon (part of)	1,021	15	2	17	11.8	16.6	13	12.7	1	—	1	59
Gloucester	13,160	179	10	189	5.3	14.4	126	9.6	6	1	7	37
Lydney	9,954	195	5	200	2.5	20.1	100	10.0	9	1	10	50
Marston Sicca	1,668	23	1	24	4.2	14.4	19	11.4	1	—	1	42
Newent (part of)	6,585	143	7	150	4.7	22.4	95	14.4	10	—	10	67
Northleach	7,518	118	8	126	6.35	16.8	100	13.3	5	1	6	48
Pebworth	3,261	63	3	66	4.55	20.2	42	12.9	2	—	2	30
Stow-on-the-Wold (part of)	6,220	97	7	104	6.7	16.7	87	14.0	5	2	7	67
Stroud	28,530	424	11	435	2.5	15.25	323	11.3	16	1	17	39
Tetbury (part of)	3,532	65	3	68	4.4	19.3	40	11.3	2	—	2	29
Tewkesbury (part of)	4,622	73	5	78	6.4	16.9	46	9.95	2	1	3	38
Thornbury	18,870	314	12	326	3.7	17.3	217	11.5	9	—	9	28
Warmley	19,000	349	9	358	2.5	18.8	167	8.8	20	1	21	59
West Dean	14,980	325	8	333	2.4	22.2	192	12.8	17	1	18	54
Wheatenhurst	6,226	98	10	108	9.3	17.3	73	11.7	4	—	4	37
Winchcombe (part of)	8,834	137	11	148	7.4	16.8	93	10.5	7	3	10	68
Total Rural Districts	231,984	4,076	182	4,258	4.3	18.4	2,630	11.3	182	15	197	46
Administrative County	331,810	5,694	259	5,953	4.35	18.0	3,879	11.7	260	24	284	48

TABLE II.
NOTIFIABLE INFECTIOUS DISEASES.—1923.

DISTRICT.	Population, Census 1921.	Small Pox			Diphtheria			Erysipelas		Scarlet Fever.			Enteric Fever			Puerperal Fever			Cerebro-Spinal Meningitis			Polio-myelitis			Ophthalmia Neonatorum			Pulmonary Tuberculosis			Other Forms of Tuberculosis			Pneumonia			Enceph. Letharg.			Total.				
		Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Sanatorium and Hospital	Deaths	Cases	Admission to Surgical Beds	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths					
URBAN—																																												
Awre	1,147	2	2	7	5	1	1	1	11	8	...		
Charlton Kings	4,379	6	5	2	3	2	1	1	2	2	1	1	11	8	7				
Cheltenham	48,430	39	39	...	43	37	3	11	...	86	74	2	20	16	4	3	65	33	41	12	...	13	14	...	47	1	1	...	294	200	110			
Cirencester	7,422	1	2	...	14	11	...	1	1	1	17	11	4	2	1	...	1	...	1	38	24	6			
Coleford	2,781	1	9	1	...	1	3	3	2	6	1	20	3	4			
Kingswood	12,951	10	1	3	59	4	2	15	15	14	8	1	2	5	94	21	24			
Nailsworth	3,148	1	1	1	2	4	2	2	4	5	4				
Newnham	1,181	11	11	1	11	11	1				
Stow-on-the-Wold	1,205	3	1	...	1	1	...	4				
Stroud	8,543	5	5	...	1	1	4	2	1	1	12	11	11	2	1	2	3	1	3	28	21	17			
Tetbury	1,593	4	3	...	1	1	1	...	1	1	1	1	1	...	2	11	3	3				
Tewkesbury	4,704	2	2	1	1	2	2	4	2	8	...	1	13	5	7				
Westbury	1,791	2	3	3	...	2	2	2	1	1	4	...	1	11	7	3				
Total	99,275	46	44	...	70	48	8	16	...	198	114	2	24	21	2	2	...	5	1	8	1	...	118	83	83	30	3	22	31	1	67	3	1	1	547	316	190		
RURAL—																																												
Campden	5,418	2	10	1	...	1	1	1	4	3	2	2	1	...	1	...	6	1	20	6	9				
Cheltenham	5,197	1	1	...	1	1	11	11	...	1	3	4	3	1	...	1	2	18	17	6				
Chipping Sodbury	21,105	4	2	...	36	...	1	1	1	33	9	8	19	...	5	12	...	8	107	9	23				
Cirencester	11,980	2	2	...	3	3	...	1	...	19	14	13	10	8	6	1	2	7	46	30	17				
Dursley	12,560	6	3	...	5	8	...	12	4	...	1	1	...	1	9	8	4	3	...	2	19	...	8	64	15	15				
East Dean	20,486	188	188	...	17	13	1	127	126	2	5	...	3	1	...	1	1	11	34	10	7	5	1	24	...	13	381	366	31				
Faringdon (part of)	1,048	1	1	1	1	2	...				
Gloucester	13,113	24	22	...	14	7	1	12	4	...	30	2	1	19	9	8	1	2	3	5	100	46	18				
Lydney	9,844	2	8	...	1	27	16	...	8	2	1	7	12	7	7	1	6	5	59	31	20				
Marston Sicca	1,728	3	3	4	3	1	...	1	1	...	2	1	...	1	10	6	4				
Newent (part of) ..	6,610	9	4	...	2	...	8	1	...	5	2	...	1	1	6	6	5	2	9	31	14	16				
Northleach	7,564	7	7	1	1	...	2	2	6	5	4	...	1	2	4	16	15	11				
Pebworth	3,239	2	3	1	1	1	2	3	3				
Stow-on-the-Wold (part of)	6,223	2	8	...	4	1	6	1	...	3	...	1	1	...	7	25	1	8			
Stroud	28,682	24	23	...	5	2	1	14	10	...	3	2	1	...	2	2	38	31	19	6	...	4	8	...	10	98	70	37				
Tetbury (part of)	3,530	1	1	...	6	2	...	7	1	10	2	2	3	...	2	2	29	3	7				
Tewkesbury (part of)	4,687	...	...	...	1	...	...	2	1	6	6	...	4	2	...	...	...	...	...	...	...	...	...	...	3	2	2	...	...	1	7	...	...	...	...	...	23	10	4	
Thornbury	18,864	2	5	...	37	...	1	1	1	16	10	8	5	...	4	28	...	6	95	10	19			
Warnley	18,476	6	2	89	48	4	21	16	12	10	...	5	7	1	5	137	67	22			
West Dean... ..	14,650	9	...	2	1	...	133	...	2	5	...	1	1	12	9	11	9	2	8	8	169	11	33				
Wheatenhurst	6,153	4	4	4	2	...	1	1	4	4	4	1	3	1	2	17	11	7				
Winchcombe (part of)	8,914	4	2	26	25	1	12	2	7	2	1	2	6	45	30	15			
Total	230,071	252	244	...	108	44	7	32	1	589	274	6	66	11	7	2	3	8	1	...	1	8	236	181	126	86	14	54	111	2	115	1491	773	325			
Administrative County	329,346	298	288	...	178	92	15	48	1	787	388	8	90	32	9	4	3	13	1	...	1	1	16	1	...	354	264	209	116	17	76	142	3	182	3	1	1	2038	1089	515		

1923.

L.G.B.—TABLE III—CAUSES OF AND AGES AT DEATH.

CAUSES OF DEATH.	All Ages	Under 1 year	1—2 years	2—5 years	5—15 years	15—25 years	25—45 years	45—65 years	65—75 years	75 and over	Avre	Charlton Kings	Cheltenham	Cirencester	Coleford	Kingswood	Nailsworth	Newnham	Stow-on-the-Wold	Stroud	Tetbury	Tewkesbury	Westbury-on-Severn
1. Enteric Fever	2	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...
2. Small Pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Measles	17	...	9	4	4	...	...	...	...	...	...	...	11	...	...	...	...	1	...	...	...	4	1
4. Scarlet Fever... ..	2	...	...	1	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
5. Whooping Cough	13	6	3	4	...	...	...	...	...	...	...	...	10	1	...	2	...	...	...	...	...	...	...
6. Diphtheria	8	...	...	2	6	...	...	...	...	...	...	2	3	...	...	3	...	...	...	...	...	...	...
7. Influenza	17	...	1	...	2	1	2	3	5	3	...	...	10	...	...	3	...	...	...	4	...	...	...
8. Encephalitis Lethargica ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Meningococcal Meningitis	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
10. Tuberculosis of Respiratory System	83	...	...	...	1	20	39	19	3	1	...	2	41	4	2	14	2	1	...	11	1	4	1
11. Other Tuberculous Diseases	22	3	1	2	3	10	1	2	...	...	...	2	13	...	...	2	...	...	...	2	...	2	1
12. Cancer, malignant disease	135	...	...	...	...	1	7	65	36	26	2	8	73	12	1	9	8	1	2	7	8	4	...
13. Rheumatic Fever	6	...	...	...	2	...	2	1	1	...	...	...	1	1	...	2	...	...	...	1	1	...	...
14. Diabetes	10	...	...	...	...	...	3	3	3	1	...	1	4	...	...	3	...	...	1	1	...	...	...
15. Cerebral Hæmorrhage	98	...	...	...	...	...	1	14	29	54	...	3	52	10	1	7	2	1	1	16	...	4	1
16. Heart Disease	182	...	...	1	...	1	12	47	55	66	1	6	89	11	7	24	6	3	4	21	3	4	3
17. Arterio-sclerosis	60	...	...	...	...	...	...	7	14	39	1	4	35	1	1	5	...	...	3	3	2	5	...
18. Bronchitis	61	9	1	...	...	...	2	5	14	30	1	3	25	5	2	8	3	...	3	6	1	3	1
19. Pneumonia (all forms)	67	14	1	3	1	3	9	14	9	13	...	1	47	1	1	5	2	...	3	3	2	1	1
20. Other respiratory diseases	19	3	...	...	...	...	1	2	6	7	...	...	10	1	...	3	...	1	...	3	...	...	1
21. Ulcer of stomach or duodenum	7	...	...	...	...	...	1	4	2	...	...	...	5	...	...	...	...	...	...	1	...	...	1
22. Diarrhoea, &c., under 2 years	9	8	1	...	...	...	...	...	...	...	...	...	6	...	...	2	...	...	...	1	...	...	...
23. Appendicitis and Typhilitis... ..	10	...	1	...	1	...	1	5	2	...	...	...	8	1	...	...	...	...	1	...	...	...	...
24. Cirrhosis of liver	6	...	...	...	...	...	...	5	1	...	...	...	4	...	...	...	...	...	...	...	...	1	1
25. Acute and chronic nephritis	40	...	...	1	...	...	1	17	4	17	1	3	22	1	...	2	...	2	...	6	2	1	...
26. Puerperal sepsis	5	...	...	...	...	1	4	...	...	...	...	...	4	...	1	...	...	...	...	...	...	...	...
27. Other accidents and diseases of pregnancy and parturition	3	...	...	...	...	1	2	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...
28. Congenital debility and malformation, premature birth	33	32	...	...	...	...	1	...	...	...	...	2	16	1	...	6	4	...	...	2	1	1	...
29. Suicide	19	...	...	...	...	1	7	8	3	...	...	1	13	2	...	1	1	...	...	1	...	...	...
30. Other deaths from violence	28	1	2	1	2	5	9	4	1	3	2	2	10	...	1	8	1	1	...	...	...	2	1
31. Other defined diseases	282	10	...	3	7	11	20	45	61	125	1	11	151	24	4	29	8	1	5	22	6	16	4
32. Causes ill-defined or unknown	4	...	...	...	...	...	...	3	1	...	...	...	1	2	...	...	...	...	...	1	...	...	...
Total	1,249	87	20	22	30	55	125	275	250	385	9	52	668	79	21	138	37	12	23	114	27	52	17



TABLE III. (B)—RURAL DISTRICTS.

1923.

L.G.B. TABLE III.—CAUSES OF AND AGES AT DEATH.

CAUSES OF DEATH.	All Ages	Under 1 year	1—2 years	2—5 years	5—15 years	15—25 years	25—45 years	45—65 years	65—75 years	75 and over	Camden	Cheltenham	Chipping Sodbury	Cirencester	Dursley	East Dean and United Parishes	Faringdon (part of)	Gloucester	Lydney	Marston Sicca	Newent (part of)	Northleach	Pebworth	Stow-on-the-Wold (part of)	Stroud	Tetbury (part of)	Tewkesbury (part of)	Thornbury	Warnley	West Dean	Wheatenhurst	Winchcombe (part of)
1. Enteric Fever	7	...	...	...	...	4	3	...	...	...	1	...	...	...	...	3	...	...	1	...	...	...	...	...	1	...	...	...	...	1	...	...
2. Small Pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Measles	5	1	2	1	1	...	...	...	...	...	...	...	1	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...
4. Scarlet Fever... ..	6	...	...	4	2	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...
5. Whooping Cough	10	4	2	4	...	...	...	...	...	...	...	...	2	1	1	2	...	...	...	...	1	...	...	...	1	...	...	2	...	...	...	...
6. Diphtheria	7	...	...	4	2	...	1	...	...	...	...	...	...	...	...	1	...	1	1	...	...	1	...	...	1	...	...	...	...	2	...	...
7. Influenza	79	2	1	4	2	4	8	23	11	24	4	2	6	3	6	5	...	3	1	...	1	1	...	9	12	2	...	13	1	6	4	...
8. Encephalitis Lethargica ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Meningococcal Meningitis	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
10. Tuberculosis of Respiratory System	126	1	1	1	2	34	58	23	6	...	2	3	8	8	4	10	...	8	7	1	5	4	1	...	19	2	2	8	12	11	4	7
11. Other Tuberculous Diseases	54	6	1	6	13	10	13	3	2	...	...	1	5	2	2	1	...	3	6	2	2	2	1	1	4	2	1	4	5	8	...	2
12. Cancer, Malignant Disease... ..	300	...	...	...	2	1	25	119	92	61	10	11	24	19	9	15	2	12	12	1	9	16	4	14	49	6	8	16	20	20	13	10
13. Rheumatic Fever	10	...	...	...	3	4	...	1	2	...	...	...	...	...	1	...	...	...	2	1	...	...	...	2	3	...	...	1	...	...	...	...
14. Diabetes	34	...	...	...	1	1	2	8	15	7	2	...	2	3	2	1	...	1	1	...	1	3	1	2	5	...	...	3	3	3	1	...
15. Cerebral Hæmorrhage	207	...	...	...	...	...	3	39	72	93	6	3	20	11	9	18	1	11	2	1	12	11	2	2	31	2	3	21	14	8	11	8
16. Heart Disease	457	...	...	...	4	5	25	113	148	162	13	9	39	18	26	50	2	18	18	4	17	18	12	14	57	5	9	46	29	23	14	16
17. Arterio-sclerosis	125	...	...	...	...	...	1	15	36	73	7	4	8	5	9	4	...	7	1	...	5	5	...	11	20	1	1	8	9	11	5	4
18. Bronchitis	148	13	4	...	...	...	4	19	33	75	1	8	22	15	6	21	1	6	3	...	1	3	1	1	11	4	3	10	7	16	6	2
19. Pneumonia (all forms)	115	17	7	9	4	5	10	22	27	14	6	2	8	7	8	13	...	5	5	1	9	4	1	7	10	2	...	6	5	8	2	6
20. Other Respiratory Diseases	32	1	1	1	1	1	3	7	7	10	...	...	1	4	2	4	...	1	1	...	...	...	1	...	2	...	...	5	6	2	...	3
21. Ulcer of Stomach or Duodenum	13	...	...	...	...	2	4	3	4	...	...	...	1	2	...	3	...	1	...	...	2	...	2	...	1	...	...	1	...	...	...	...
22. Diarrhœa, &c., under 2 years	9	8	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	2	...	...	...	4	...	...	...
23. Appendicitis and Typhlitis... ..	19	...	1	...	1	1	3	8	3	2	1	1	1	...	...	1	...	...	1	1	2	1	1	...	3	...	1	...	3	...	1	1
24. Cirrhosis of liver	10	1	...	...	...	...	...	7	1	1	...	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	3	...	1	2	1
25. Acute and Chronic Nephritis	91	2	...	2	4	4	9	35	22	13	6	6	6	4	11	9	1	4	4	1	5	2	...	2	8	3	1	7	2	6	2	1
26. Puerperal sepsis	8	...	...	...	...	2	6	...	...	...	...	...	1	...	...	1	...	1	...	...	...	...	...	...	2	1	...	...	...	1	1	...
27. Other accidents and diseases of pregnancy and parturition	10	...	...	...	...	2	8	...	...	...	...	...	...	...	1	3	...	...	...	...	...	1	1	...	2	1	...	...	...	...	...	1
28. Congenital debility and malformation, premature birth	96	95	1	...	...	...	...	...	...	...	...	1	8	6	6	11	1	4	5	...	3	4	2	2	11	2	2	4	8	11	...	5
29. Suicide	23	...	...	...	...	2	6	10	3	2	...	1	4	...	1	1	...	4	...	...	...	1	...	2	1	...	...	2	2	4	...	...
30. Other deaths from violence	75	2	...	5	8	10	15	15	9	11	3	...	2	4	4	10	...	4	5	...	4	3	...	1	5	1	2	11	7	6	1	2
31. Other defined diseases	542	43	8	5	13	16	48	69	95	245	21	17	51	24	24	61	5	29	22	6	13	20	11	17	59	6	11	45	19	42	6	23
32. Causes ill-defined or unknown	11	1	2	...	...	...	1	2	4	1	1	...	1	2	...	...	...	1	1	...	...	...	...	...	2	...	2	...	...	...	...	1
Total	2,630	197	32	46	63	104	258	544	592	794	84	69	222	131	132	252	13	126	100	19	95	100	42	87	323	40	46	217	167	192	73	93

